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1 2. The computer-implemented method of claim 1 further comprising:
2 identifying a candidate load instruction within the candidate reuse region; and
3 instrumenting the software to profile location-values for the candidate load
4 instruction.

1 3. The computer-implemented method of claim 1 wherein the input set
2 comprises a plurality of input registers, and each set-value comprises an input
3 register value for each of the plurality of input registers, the method further
4 comprising:
5 for each set-value, combining each of the input register values into a single
6 value.

1 4. The computer-implemented method of claim 3 wherein combining
2 comprises:
3 folding each of the input register values to create folded values; and
4 concatenating the folded values.

1 5. The computer-implemented method of claim 1 wherein instrumenting
2 comprises inserting instructions to periodically sample set-values.

1 6. The computer-implemented method of claim 5 wherein the input-set
2 comprises a plurality of input registers, and each set-value comprises an input

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1 17. The computer-implemented method of claim 16 wherein instrumenting
2 comprises:
3 inserting instructions in the software to count the number of times each
4 location-value is sampled; and
5 inserting instructions in the software to keep track of top location-values.

1 18. The computer-implemented method of claim 16 further comprising:
2 identifying a group of control equivalent candidate region entries and
3 candidate load instructions;
4 inserting instructions prior to the group, wherein the instructions set a
5 predicate register every S occurrences; and
6 inserting profiling instructions at each of the control equivalent candidate
7 region entries and candidate load instructions, wherein the profiling instructions are
8 predicated on the predicated register.

1 19. The computer-implemented method of claim 17 wherein the candidate region
2 includes a plurality of candidate load instructions, each of the plurality of load
3 instructions being predicated on a common predicate register.

1 20. The computer-implemented method of claim 17 wherein inserting
2 instructions to keep track of top location-values includes inserting sampling
3 instructions configured to profile the top N occurrences of location-values, where N
4 is an integer.

1 21. A machine readable medium including instructions for a method of profiling
2 software, the method comprising:
3 identifying a candidate load instruction;
4 instrumenting the software to sample a location-value every S occurrences of
5 the candidate load instruction; and
6 executing the software.

1 28. The machine readable medium of claim 27 wherein profiling set-values

2 comprises:

3 representing each top set-value as a single value; and

4 accessing a data structure as a function of the single value to modify a profile

5 indicator.

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